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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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ANDREAS GRUBERT
BAKER BOTTS L.L.P.
ONE SHELL PLAZA
910 LOUISANA STREET
HOUSTON, TX 77002-4995

EXAMINER
MASKULINSKI, MICHAEL C

ART UNIT	PAPER NUMBER
2113	

DATE MAILED: 01/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/972,365	BUNGERT ET AL.	
	Examiner	Art Unit	
	Michael C Maskulinski	2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 December 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *7 and 14-19* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 8-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Final Office Action

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-6 and 8-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Lenz et al., US 2001/0032025 A1.

Referring to claim 1:

a. In paragraph 0023, Lenz et al. disclose processor sensors that comprise any device suitable for measuring a process variable, such as temperature, pressure, motion, direction, rate of change, and the like and a process machine (identifying components and sensors in the system).

b. In paragraph 0023, Lenz et al. disclose that the process controller receives a measurement (receiving outputs from said sensors) of a process variable (identifying inputs to each identified component), from a process sensor.

c. In paragraph 0009, Lenz et al. disclose a similarity search engine for similarity searching the measurement against the process attribute information stored in the databases, a means for assigning a similarity search score to the measurement (determining a weight value for a possible fault condition for each component based on said functional relationship).

d. In paragraph 0005, Lenz et al. disclose collecting and storing process attribute information in a plurality of databases, receiving at least one process measurement from a measurement device, similarity searching the at least one

process measurement against the process attribute information stored in the databases, assigning a similarity score to the process measurement, and comparing the similarity score to a match tolerance level (determining functional relationships between the inputs and outputs for each identified component; and determining fault conditions from said possible fault conditions based on said weight values).

Referring to claim 2, in paragraph 0005, Lenz et al. disclose collecting and storing process attribute information in a plurality of databases, receiving at least one process measurement from a measurement device, similarity searching the at least one process measurement against the process attribute information stored in the databases, assigning a similarity score to the process measurement, and comparing the similarity score to a match tolerance level. Further, in paragraph 0026, Lenz et al. disclose that when the similarity score is below the match tolerance level, then the process controller may determine that the measurement received is inaccurate (using the identified inputs and outputs of a specific component and sensors and the functional relationships of a corresponding generic component to identify the fault conditions).

Referring to claim 3, in paragraph 0028, Lenz et al. disclose that process attribute information is stored in a plurality of disparate databases. The databases may comprise process variable databases, condition monitoring databases, process machine attribute databases, etc. (defining component libraries that describe the functional relationships of the generic components).

Referring to claim 4, in paragraph 0024, Lenz et al. disclose that the similarity searching may be performed by a similarity search engine (SSE) that resides on the process controller (creating a diagnostic program from the functional relationships of the generic components associated with each component).

Referring to claim 5, in paragraph 0026, Lenz et al. disclose that it is determined whether the similarity score meets or exceeds the match tolerance level. Where the similarity score is below the match tolerance level, then the process controller may determine that the measurement received is inaccurate (transforming the functional relationships into fault conditions).

Referring to claim 6, in paragraph 0009, Lenz et al. disclose a similarity search engine for similarity searching the measurement against the process attribute information stored in the databases, a means for assigning a similarity search score to the measurement, a means for comparing the similarity search score to a match tolerance level (the step of transforming is implemented in an off-line phase during which the diagnostic program is created, and an on-line phase during which available inputs and outputs are supplied to the transformed functional relationships in the control program, to identify fault conditions).

Referring to claims 8 and 13, in paragraph 0047, Lenz et al. disclose that process machine monitoring variables may comprise any variables that can be related physically or mathematically to machine condition or performance. Process machine monitoring variables may include, for example, vibration, shaft alignment, bearing temperature,

motor current, flux data, etc. (the step of including state information for at least one of the components to define the state of the component at a different time).

Referring to claim 9:

a. In paragraph 0023, Lenz et al. disclose processor sensors that comprise any device suitable for measuring a process variable, such as temperature, pressure, motion, direction, rate of change, and the like and process machines (identifying the functional elements and associated sensors in the system).

b. In paragraph 0023, Lenz et al. disclose that the process controller receives a measurement (receiving outputs from said associated sensors) of a process variable (defining inputs for each of the functional elements), from a process sensor.

c. In paragraph 0005, Lenz et al. disclose collecting and storing process attribute information in a plurality of databases, receiving at least one process measurement from a measurement device, similarity searching the at least one process measurement against the process attribute information stored in the databases, assigning a similarity score to the process measurement, and comparing the similarity score to a match tolerance level (determining functional relationships between the inputs and outputs for each functional element).

d. In paragraph 0060, Lenz et al. disclose that the invention may be implemented using standard programming or engineering techniques including computer programming software, firmware, hardware or any combination or

subset thereof (expressing the functional relationships using a programming language).

e. In paragraph 0009, Lenz et al. disclose a similarity search engine for similarity searching the measurement against the process attribute information stored in the databases, a means for assigning a similarity search score to the measurement (determining a weight value for a possible fault condition for each functional element based on said functional relationship).

f. In paragraph 0005, Lenz et al. disclose collecting and storing process attribute information in a plurality of databases, receiving at least one process measurement from a measurement device, similarity searching the at least one process measurement against the process attribute information stored in the databases, assigning a similarity score to the process measurement, and comparing the similarity score to a match tolerance level (determining fault conditions from said possible fault conditions based on said weight values).

Referring to claim 10, in paragraph 0060, Lenz et al. disclose that the invention may be implemented using standard programming or engineering techniques including computer programming software, firmware, hardware or any combination or subset thereof (wherein the programming language is a symbolic language).

Referring to claim 11, in paragraph 0028, Lenz et al. disclose that process attribute information is stored in a plurality of disparate databases. The databases may comprise process variable databases, condition monitoring databases, process machine attribute databases, etc. (defining functional relationships for at least some of

the functional elements includes utilizing a component library that defines the functional relationships between inputs and outputs of at least one generic element).

Referring to claim 12, in paragraph 0005, Lenz et al. disclose collecting and storing process attribute information in a plurality of databases, receiving at least one process measurement from a measurement device, similarity searching the at least one process measurement against the process attribute information stored in the databases, assigning a similarity score to the process measurement, and comparing the similarity score to a match tolerance level. Further, in paragraph 0026, Lenz et al. disclose that when the similarity score is below the match tolerance level, then the process controller may determine that the measurement received is inaccurate (the step of defining the functional relationships includes the step of defining functional relationships and inputs and outputs of the generic elements corresponding to the functional elements in the system).

Response to Arguments

3. Applicant's arguments filed December 9, 2004 have been fully considered but they are not persuasive.

4. On page 5, under the section Claim Rejections Under 35 U.S.C. §102, the Applicant gives support for the amendment as being on page 17, line 23 to page 18, line 8. This is not valid support considering the claims start on page 17 and the Abstract is on page 18. The Examiner requests that the Applicant indicate where support for the

amendment is given to clear up any issues that the amendment is new matter and to make the record clear.

5. On page 5, under the section Claim Rejections Under 35 U.S.C. §102, the Applicant argues, "Lenz merely discloses the indication of fault based on a sensor value which is, for example, below a specified threshold. No weighting takes place." The Examiner respectfully disagrees. In paragraph 0026, Lenz et al. disclose assigning a similarity score and then checking it against a tolerance level. This is the same as a weighting factor since a weighting factor indicates a match by the larger the number. For example, if a 10 were a perfect match, then an 8 would be better than a 3. Further, if anything over a 7 were a close match then 7 would be the threshold.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C Maskulinski whose telephone number is (571) 272-3649. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MM

ROBERT BEAUSOLIEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100